



December 20, 2013

Mr. Mark Nations  
The Doe Run Company  
P.O. Box 1633  
Desloge, Missouri 63601

**Re: Ambient Air Monitoring Report – National Site**

Dear Mr. Nations:

Please find attached the Third Quarter 2013 “*Ambient Air Monitoring Report*” for The Doe Run Company at the National Industries, Inc. Reclamation Area Sites, located near Park Hills, Missouri.

This report will include the following:

- **Glossary of Terms** – Listing of the abbreviations used for each parameter and unit.
- **National Ambient Air Quality Standards** – Lists the maximum allowable concentrations for the measured parameters.
- **Quarterly Missing Data Summary** – Listing of missing particulate run days.
- **Quarterly Data Summary** – Includes the averages of each monitored parameter, which relates to the federal standard.

Barr Engineering Company offers this report as an independent laboratory. This includes the weighing of filters, obtaining lead and cadmium analysis, compiling the data, and preparing the report. No interpretation of the data or analysis of the results is implied or intended. Should you have any questions regarding this report, please call.

Respectfully,

A handwritten signature in cursive script that reads "Richard J. Campbell".

Richard J. Campbell, PE  
Chemical Engineer  
Senior Environmental Consultant

c: Mr. Bob Hinkson  
Mr. Jason Gunter  
Mr. Ty Morris  
Mr. Kevin Lombardozzi

071R

40436672

10.0



Superfund

01102

# ***Ambient Air Monitoring Report***

***National Industries, Inc. Reclamation Area Site  
Park Hills, Missouri***

***The Doe Run Company***

***Third Quarter 2013***



RECEIVED

NOV 6 2014

PERFUND

***Ambient Air Monitoring Report***

***National Industries, Inc. Reclamation Area Site  
Park Hills, Missouri***

***The Doe Run Company***

***Third Quarter 2013***



1001 Diamond Ridge Suite 1100  
Jefferson City, MO 65109  
Phone: (573) 638-5000  
Fax: (573) 638-5001

## GLOSSARY OF TERMS

$\mu\text{g}/\text{m}^3$	Micrograms per Cubic Meter
TSP	Total Suspended Particulate
PM <sub>10</sub>	Particulate Matter - 10 Microns or Less
mmHg	Millimeters of Mercury

## NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

PM <sub>10</sub> – Particulate Matter	24-Hour*	Annual Maximum	150 $\mu\text{g}/\text{m}^3$
Lead	Calendar Quarter	Arithmetic Mean	1.5 $\mu\text{g}/\text{m}^3$

TSP (Total Suspended Particulate) – There are no Federal Standards that apply solely for TSP.

\*This standard must be exceeded more than once a year to constitute a violation.

## QUARTERLY MISSING DATA SUMMARY

### TSP/Lead Summary

All Sites – 7/4-7/5/2013 – Holiday – No Samples Scheduled  
 Big River #4 - 7/29/2013 - INVALID – Sample Run Time Short  
 National Site #1 - 8/8/2013 - INVALID – Sample Run Time Short  
 National Site #3 Water Treatment Plant – 8/20/2013 - INVALID – Mechanical Failure  
 National Site #2 - 8/22/2013 - INVALID – Sample Run Time Short  
 National Site #1 - 8/29/2013 - INVALID – Sample Run Time Short  
 All Sites – 9/2/2013 – Holiday – No Samples Scheduled  
 Big River Site #4 - 9/16/2013 – Blank Filter QA  
 Big River Site #4 QA - 9/16/2013 – Blank Filter QA  
 Big River #4 - 9/18/2013 - INVALID – Mechanical Failure  
 Big River #4 - 9/20/2013 - INVALID – Timer Failure  
 National Site #2 - 9/25/2013 - INVALID – Reason Unknown

### PM<sub>10</sub> Summary

All Sites – 7/6/2013 – Holiday – No Samples Scheduled  
 Big River Site #4 - 9/16/2013 – Blank Filter QA

***Particulate and Lead Quarterly Summary***



## TSP and Lead Concentration Summary

National  
Park Hills, Missouri

2013

Date	TSP Big River #4 ( $\mu\text{g}/\text{m}^3$ )	TSP Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	TSP Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	TSP Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )	LEAD Big River #4 ( $\mu\text{g}/\text{m}^3$ )	LEAD Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	LEAD Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	LEAD Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )
7/1/13	46	33	43	34	0.026	0.010	0.016	0.012
7/2/13	17	22	26	18	0.000	0.016	0.032	0.000
7/3/13	28	26	32	26	0.010	0.008	0.019	0.012
7/8/13	24	30	31	22	0.019	0.043	0.043	0.016
7/9/13	29	28	27	28	0.021	0.011	0.015	0.022
7/10/13	24	25	27	23	0.063	0.020	0.021	0.013
7/11/13	32	28	29	35	0.007	0.008	0.011	0.015
7/12/13	25	25	25	23	0.010	0.008	0.019	0.013
7/15/13	20	19	28	18	0.020	0.008	0.030	0.010
7/16/13	31	25	27	21	0.042	0.019	0.030	0.021
7/17/13	33	29	31	25	0.026	0.013	0.026	0.033
7/18/13	29	31	27	27	0.017	0.013	0.015	0.039
7/19/13	25	25	23	22	0.013	0.016	0.022	0.008
7/22/13	24	24	35	24	0.056	0.043	0.090	0.096
7/23/13	46	28	25	25	0.083	0.014	0.013	0.016
7/24/13	33	35	34	28	0.014	0.012	0.017	0.024
7/25/13	41	27	30	32	0.055	0.009	0.016	0.016
7/26/13	15	16	20	15	0.000	0.000	0.009	0.010
7/29/13	INVALID	21	28	23	INVALID	0.008	0.032	0.022
7/30/13	9	14	14	13	0.000	0.000	0.000	0.000
7/31/13	19	18	18	17	0.015	0.007	0.000	0.013
<b>Monthly Average</b>	28	25	28	24	0.025	0.014	0.023	0.020
					<b>QUARTERLY LEAD NAAQS LIMIT: 1.5 <math>\mu\text{g}/\text{m}^3</math></b>			

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.



## TSP and Lead Concentration Summary

National  
Park Hills, Missouri

2013

Date	TSP Big River #4 ( $\mu\text{g}/\text{m}^3$ )	TSP Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	TSP Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	TSP Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )	LEAD Big River #4 ( $\mu\text{g}/\text{m}^3$ )	LEAD Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	LEAD Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	LEAD Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )
8/1/13	31	32	30	25	0.068	0.016	0.016	0.017
8/2/13	31	26	22	24	0.007	0.013	0.014	0.008
8/5/13	13	14	15	13	0.000	0.009	0.011	0.000
8/6/13	8	12	12	9	0.000	0.008	0.011	0.000
8/7/13	13	17	20	20	0.016	0.024	0.035	0.026
8/8/13	26	INVALID	27	23	0.019	INVALID	0.017	0.019
8/9/13	31	22	24	23	0.006	0.007	0.011	0.006
8/12/13	20	24	23	21	0.013	0.007	0.009	0.024
8/13/13	40	20	22	24	0.015	0.006	0.011	0.012
8/14/13	19	17	17	17	0.010	0.009	0.007	0.026
8/15/13	34	33	24	23	0.016	0.015	0.011	0.024
8/16/13	46	33	36	34	0.023	0.009	0.013	0.013
8/19/13	33	34	35	30	0.023	0.018	0.025	0.022
8/20/13	23	30	26	INVALID	0.009	0.013	0.017	INVALID
8/21/13	28	30	28	23	0.026	0.015	0.027	0.014
8/22/13	45	47	INVALID	41	0.026	0.013	INVALID	0.052
8/23/13	53	36	39	41	0.015	0.000	0.014	0.015
8/26/13	27	36	31	26	0.018	0.024	0.024	0.011
8/27/13	34	34	32	34	0.027	0.022	0.028	0.061
8/28/13	46	50	32	54	0.043	0.013	0.009	0.094
8/29/13	37	INVALID	32	36	0.020	INVALID	0.020	0.019
8/30/13	46	40	40	38	0.021	0.018	0.019	0.019
<b>Monthly Average</b>	31	29	27	27	0.019	0.013	0.017	0.023

**QUARTERLY LEAD NAAQS LIMIT: 1.5  $\mu\text{g}/\text{m}^3$**

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.



## TSP and Lead Concentration Summary

National  
Park Hills, Missouri

2013

Date	TSP Big River #4 ( $\mu\text{g}/\text{m}^3$ )	TSP Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	TSP Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	TSP Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )	LEAD Big River #4 ( $\mu\text{g}/\text{m}^3$ )	LEAD Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	LEAD Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	LEAD Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )
9/3/13	33	44	27	22	0.026	0.033	0.023	0.035
9/4/13	47	37	32	31	0.030	0.063	0.041	0.053
9/5/13	39	34	31	34	0.039	0.013	0.021	0.071
9/6/13	32	32	35	28	0.023	0.019	0.020	0.011
9/9/13	39	37	96	38	0.035	0.019	0.043	0.055
9/10/13	45	49	42	41	0.043	0.035	0.024	0.032
9/11/13	53	43	38	46	0.052	0.017	0.018	0.049
9/12/13	38	39	31	28	0.031	0.024	0.018	0.020
9/13/13	32	59	25	31	0.014	0.016	0.011	0.015
9/16/13	28	23	25	25	0.007	0.000	0.006	0.007
9/17/13	17	25	26	23	0.000	0.006	0.010	0.000
9/18/13	INVALID	42	42	37	INVALID	0.007	0.016	0.000
9/19/13	32	34	35	33	0.000	0.007	0.017	0.009
9/20/13	INVALID	15	18	14	INVALID	0.000	0.000	0.000
9/23/13	23	19	22	13	0.014	0.013	0.020	0.007
9/24/13	20	18	21	18	0.000	0.000	0.009	0.000
9/25/13	24	20	INVALID	19	0.011	0.000	INVALID	0.008
9/26/13	27	26	29	26	0.008	0.007	0.013	0.006
9/27/13	25	27	27	24	0.008	0.011	0.021	0.008
9/30/13	12	13	17	8	0.064	0.008	0.013	0.000
<b>Monthly Average</b>	31	32	32	27	0.022	0.015	0.018	0.019
<b>Quarterly Average</b>	30	29	29	26	0.022	0.014	0.019	0.021
					<b>QUARTERLY LEAD NAAQS LIMIT: 1.5 <math>\mu\text{g}/\text{m}^3</math></b>			

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.

***PM<sub>10</sub> Quarterly Summary***



## Particulate Summary

National  
Park Hills, Missouri

2013

Date	PM <sub>10</sub> Big River #4 ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> NAAQS ( $\mu\text{g}/\text{m}^3$ )
3-Jul	17	16	20	16	150
9-Jul	17	16	19	14	150
12-Jul	16	16	16	15	150
15-Jul	15	12	14	11	150
18-Jul	16	14	15	14	150
21-Jul	10	9	10	9	150
24-Jul	14	12	12	11	150
27-Jul	8	9	16	43	150
30-Jul	10	10	10	7	150
<b>Monthly Average</b>	14	13	15	16	

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.





## Particulate Summary

National  
Park Hills, Missouri

2013

Date	PM <sub>10</sub> Big River #4 (µg/m <sup>3</sup> )	PM <sub>10</sub> Ozark #1 (µg/m <sup>3</sup> )	PM <sub>10</sub> Soccer #2 (µg/m <sup>3</sup> )	PM <sub>10</sub> Water Plant #3 (µg/m <sup>3</sup> )	PM <sub>10</sub> NAAQS (µg/m <sup>3</sup> )
1-Sep	15	16	16	16	150
4-Sep	22	21	17	20	150
7-Sep	22	23	23	22	150
10-Sep	24	23	23	26	150
13-Sep	17	20	14	20	150
16-Sep	19	16	17	18	150
19-Sep	29	29	30	32	150
22-Sep	8	8	9	9	150
25-Sep	15	11	11	14	150
28-Sep	23	23	24	25	150
Monthly Average	19	19	18	20	
Quarterly Average	17	17	17	19	

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.

***Quarterly Quality Control***



120 East Davis Street  
P.O. Box 30  
Fayette, MO 65248-0030

Phone: (660) 248-1911  
Fax: (660) 248-1921  
http://www.inovatia.com

**ANALYSIS REPORT**

**Client Information:**

Barr Engineering  
5150 W. 76th Street  
Edina, MN 55439

**Project Name:** Quarterly QC Samples

**Quarter-Year:** Q3-2013

**Sample Matrix:** Filter

**Analysis Method:** 40 CFR §58 Appendix A/40 CFR §50 Appendix G

Lab Number	Observed Value (µg Pb/Filter)	Actual Value (µg Pb/Filter)	Difference (+/-)	Difference (%)	% Difference Average (%)	Standard Deviation	95% Probability Limit (+)	95% Probability Limit (-)	Analyst-Date
20A	19.173	20	-0.827	-4.135%					DS-07/01/13
20B	20.304	20	0.304	1.520%					DS-08/05/13
20C	20.638	20	0.638	3.190%	0.192%	3.839%	7.716%	-7.333%	DS-09/05/13
60A	59.194	60	-0.806	-1.343%					DS-07/01/13
60B	60.040	60	0.040	0.067%					DS-08/05/13
60C	62.794	60	2.794	4.657%	1.127%	3.137%	7.276%	-5.022%	DS-09/05/13

Submitted by:

Digitally signed by Jennifer Vandelicht  
DN: cn=Jennifer Vandelicht,  
o=Inovatia Laboratories, LLC,  
ou=Quality Assurance,  
email=jvandelicht@inovaita.com,  
c=US  
Date: 2013.09.18 09:53:42 -0500

Jennifer Vandelicht  
Quality Assurance

09/18/2013

Date

This report has been produced for the exclusive and confidential use of our clients. Reference to the analyses, the results, or the corporation in any news releases, advertising, or other public announcement is prohibited without obtaining prior written consent.